Appendix B: Conversion Factor Derivation

Flow and concentration values must be multiplied by a conversion factor in order to express the load in the units "pounds/day." The following expressions detail how the conversion factor was determined:

$$Flow\left(\frac{million\,gallons}{day}\right)\times concentration\left(\frac{milligrams}{Liter}\right)\times CF = Load\left(\frac{pounds}{day}\right)$$

$$10^6\,\frac{gal}{day}\times\frac{mg}{L}\times\left(\frac{3.785L}{gal}\times\frac{lb}{454000\,mg}\right) \quad = \quad \frac{lb}{day}$$

$$10^6\times\frac{3.785\,L}{gal}\times\frac{lb}{454000\,mg}=8.34\,\frac{L-lb}{gal-mg}$$

$$CF=8.34\frac{L-lb}{gal-mg}$$

$$CF = 8.34$$